

a12) from 20 to 60 mol% of at least one of an aromatic polycarboxylic acid and an esterifiable derivative of an aromatic polycarboxylic acid;

and

a2) at least 60 mol% of at least one of an aliphatic polyol and a cycloaliphatic polyol, wherein each of the aliphatic polyol and the cycloaliphatic polyol include in its molecule at least one structural element $-C(R^1R^2)-CH_2OH$, wherein R^1 and R^2 are each at least one of a methylol group, a 1 to 20 carbon aliphatic hydrocarbon radical, a cyclo-aliphatic hydrocarbon radical, and an aromatic hydrocarbon radical.

18. (New) The coating material of claim 17, wherein a1) and a2) are reacted with one another in a molar ratio a1):a2) of 1.1:1 to 2:1.

19. (New) The coating material of claim 17, wherein the degree of branching of the polyester is from 1.0 to 2.0 mol/kg.

20. (New) The coating material of claim 17, wherein the polyester has at least one of a number-average molecular weight of from 650 to 2500 daltons, an acid number of from 25 to 55 mg KOH/g, and a hydroxyl number of from 80 to 180 mg KOH/g.

21. (New) The coating material of claim 17, wherein the coating material comprises a mixture product of

A) from 2 to 90% by weight of the polyester,

B) from 1 to 80% by weight of the polyurethane acrylate,

C) from 1 to 80% by weight of the amino resin, and

D) from 1 to 95% by weight of at least one of the color pigment, the effect pigment, the color and effect pigment, and the filler,

the percentages by weight being based on an overall solids content of the coating material.

22. (New) The coating material of claim 17, wherein the polyisocyanate is added in an amount of from 0.5 to 50% by weight based on an overall solids content of the coating material.

23. (New) The coating material of claim 17, wherein (A), (B), and (C) are added in a ratio (A):(B):(C) of 25-70:10-40:10-40.

24. (New) The coating material of claim 17, wherein the polyurethane acrylate comprises a reaction product of a free-radical polymerization in an aqueous dispersion

- B1) of at least one dispersed polyurethane resin comprising a reaction product of
- b1) at least one polyisocyanate and optionally at least one monoisocyanate;
 - b2) at least one of a polyesterpolyol and a polyetherpolyol each having a number-average molecular weight of from 400 to 5000;
 - b3) at least one compound comprising at least one of
 - b31) at least one isocyanate-reactive group and
 - b32) at least one of an anionic group and a group convertible into anions by neutralizing agents,and
 - b33) at least one nonionic hydrophilic group;
 - and
 - b4) at least one compound comprising
 - b41) at least one isocyanate-reactive group and
 - b42) at least one olefinically unsaturated group;
- and
- B2) at least one olefinically unsaturated monomer.

25. (New) The coating material of claim 17, wherein the amino resin comprises a melamine-formaldehyde resin containing C₁ to C₄ alkyl ether groups and containing from 0.1 to 1.5 free imino groups per melamine nucleus.

26. (New) The coating material of claim 17 further comprising at least one ingredient curable with actinic radiation.

27. (New) A process comprising applying the coating material of claim 17 to a substrate to form an at least one coat paint system.

28. (New) The paint system produced by the process of claim 27.

29. (New) A product produced by the process of claim 27.

30. (New) A process for preparing an aqueous coating material comprising mixing at least the following in an aqueous medium:

- A) at least one polyester that is water-soluble or water-dispersible,
- B) at least one polyurethane acrylate that is water-soluble or water-dispersible,
- C) at least one amino resin that is itself water-soluble or water-dispersible or is water-soluble or water-dispersible in the presence of the polyester and the polyurethane acrylate, and
- D) at least one of a color pigment, an effect pigment, a color and effect pigment, and a filler,

wherein the polyester comprises a reaction product of

a1) a mixture comprising

a11) from 40 to 80 mol% of at least one of an aliphatic polycarboxylic acid, a cycloaliphatic polycarboxylic acid, an esterifiable derivative of an aliphatic polycarboxylic acid, and an esterifiable derivative of a cycloaliphatic polycarboxylic acid,

a12) from 20 to 60 mol% of at least one of an aromatic polycarboxylic acid and an esterifiable derivative of an aromatic polycarboxylic acid;

and

a2) at least 60 mol% of at least one of an aliphatic polyol and a cycloaliphatic polyol, wherein each of the aliphatic polyol and the cycloaliphatic polyol include in its molecule at least one structural element $-C(R^1R^2)-CH_2OH$, wherein R^1 and R^2 are each at least one of a methylol group, a 1 to 20 carbon aliphatic hydrocarbon radical, a cyclo-aliphatic hydrocarbon radical, and an aromatic hydrocarbon radical.

31. (New) The process of claim 30, wherein a1) and a2) are reacted with one another in a molar ratio a1):a2) of 1.1:1 to 2:1.

32. (New) The process of claim 30, wherein the degree of branching of the polyester is from 1.0 to 2.0 mol/kg.
33. (New) The process of claim 30, wherein the polyester has at least one of a number-average molecular weight of from 650 to 2500 daltons, an acid number of from 25 to 55 mg KOH/g, and a hydroxyl number of from 80 to 180 mg KOH/g.
34. (New) The process of claim 30, wherein the coating material comprises a mixture product of
- A) from 2 to 90% by weight of the polyester,
 - B) from 1 to 80% by weight of the polyurethane acrylate,
 - C) from 1 to 80% by weight of the amino resin, and
 - D) from 1 to 95% by weight of at least one of the color pigment, the effect pigment, the color and effect pigment, and the filler,
- the percentages by weight being based on an overall solids content of the coating material.
35. (New) The process of claim 30, wherein (A), (B), and (C) are added in a ratio (A):(B):(C) of 25-70:10-40:10-40.
36. (New) The process of claim 30, wherein the polyurethane acrylate comprises a reaction product of a free-radical polymerization in an aqueous dispersion
- B1) of at least one dispersed polyurethane resin comprising a reaction product of
 - b1) at least one polyisocyanate and optionally at least one monoisocyanate;
 - b2) at least one of a polyesterpolyol and a polyetherpolyol each having a number-average molecular weight of from 400 to 5000;
 - b3) at least one compound comprising at least one of
 - b31) at least one isocyanate-reactive group and
 - b32) at least one of an anionic group and a group convertible into anions by neutralizing agents,and
 - b33) at least one nonionic hydrophilic group;
- and

- b4) at least one compound comprising
- b41) at least one isocyanate-reactive group and
- b42) at least one olefinically unsaturated group;

and

B2) at least one olefinically unsaturated monomer.

37. (New) The process of claim 30, wherein the amino resin comprises a melamine-formaldehyde resin containing C₁ to C₄ alkyl ether groups and containing from 0.1 to 1.5 free imino groups per melamine nucleus.

38. (New) The process of claim 30, wherein the mixing further comprises at least one ingredient curable with actinic radiation.

39. (New) The process of claim 30 further comprising applying the coating material to a substrate to form an at least one coat paint system.

40. (New) The paint system produced by the process of claim 39.

41. (New) A product produced by the process of claim 39.

42. (New) A process for preparing an aqueous coating material comprising

- I) mixing at least one of the following in an aqueous medium:
- A) at least one polyester that is water-soluble or water-dispersible,
- B) at least one polyurethane acrylate that is water-soluble or water-dispersible,
- C) at least one amino resin that is itself water-soluble or water-dispersible or is water-soluble or water-dispersible in the presence of the polyester and the polyurethane acrylate, and
- D) at least one of a color pigment, an effect pigment, a color and effect pigment, and a filler,

to give component (I);

and

II) mixing component (I) with at least one polyisocyanate,

wherein the polyester comprises a reaction product of

- a1) a mixture comprising
- a11) from 40 to 80 mol% of at least one of an aliphatic polycarboxylic acid, a cycloaliphatic polycarboxylic acid, an esterifiable derivative of an aliphatic polycarboxylic acid, and an esterifiable derivative of a cycloaliphatic polycarboxylic acid,
 - a12) from 20 to 60 mol% of at least one of an aromatic polycarboxylic acid and an esterifiable derivative of an aromatic polycarboxylic acid;

and

- a2) at least 60 mol% of at least one of an aliphatic polyol and a cycloaliphatic polyol, wherein each of the aliphatic polyol and the cycloaliphatic polyol include in its molecule at least one structural element $-C(R^1R^2)-CH_2OH$, wherein R^1 and R^2 are each at least one of a methylol group, a 1 to 20 carbon aliphatic hydrocarbon radical, a cyclo-aliphatic hydrocarbon radical, and an aromatic hydrocarbon radical.

43. (New) The process of claim 42, wherein a1) and a2) are reacted with one another in a molar ratio a1):a2) of 1.1:1 to 2:1.

44. (New) The process of claim 42, wherein the degree of branching of the polyester is from 1.0 to 2.0 mol/kg.

A³ 45. (New) The process of claim 42, wherein the polyester has at least one of a number-average molecular weight of from 650 to 2500 daltons, an acid number of from 25 to 55 mg KOH/g, and a hydroxyl number of from 80 to 180 mg KOH/g.

46. (New) The process of claim 42, wherein the coating material comprises a mixture product of

- A) from 2 to 90% by weight of the polyester,
- B) from 1 to 80% by weight of the polyurethane acrylate,
- C) from 1 to 80% by weight of the amino resin, and
- D) from 1 to 95% by weight of at least one of the color pigment, the effect pigment, the color and effect pigment, and the filler,

the percentages by weight being based on an overall solids content of the coating material.

47. (New) The process of claim 42, wherein the polyisocyanate is added in an amount of from 0.5 to 50% by weight based on an overall solids content of the coating material.

48. (New) The process of claim 42, wherein (A), (B), and (C) are added in a ratio (A):(B):(C) of 25-70:10-40:10-40.

49. (New) The process of claim 42, wherein the polyurethane acrylate comprises a reaction product of a free-radical polymerization in an aqueous dispersion

B1) of at least one dispersed polyurethane resin comprising a reaction product of

b1) at least one polyisocyanate and optionally at least one monoisocyanate;

b2) at least one of a polyesterpolyol and a polyetherpolyol each having a number-average molecular weight of from 400 to 5000;

b3) at least one compound comprising at least one of

b31) at least one isocyanate-reactive group and

b32) at least one of an anionic group and a group convertible into anions by neutralizing agents,

and

b33) at least one nonionic hydrophilic group;

and

b4) at least one compound comprising

b41) at least one isocyanate-reactive group and

b42) at least one olefinically unsaturated group;

and

B2) at least one olefinically unsaturated monomer.

50. (New) The process of claim 42, wherein the amino resin comprises a melamine-formaldehyde resin containing C₁ to C₄ alkyl ether groups and containing from 0.1 to 1.5 free imino groups per melamine nucleus.

51. (New)The process of claim 42, wherein the mixing further comprises at least one ingredient curable with actinic radiation.
52. (New)The process of claim 42 further comprising applying the coating material to a substrate to form an at least one coat paint system.
53. (New)The paint system produced by the process of claim 52.
54. (New)A product produced by the process of claim 52.
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